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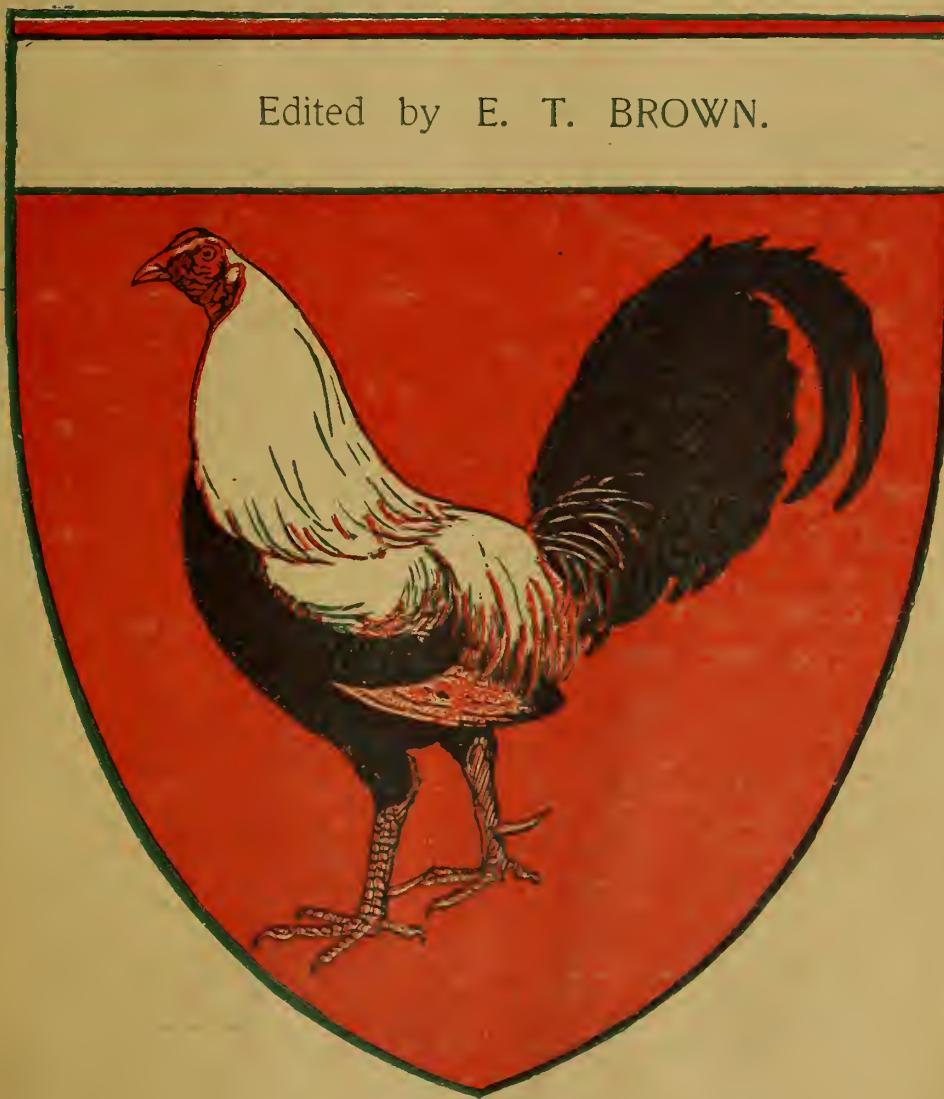
THE ILLUSTRATED POULTRY RECORD

NUMBER 4.

SEPTEMBER, 1915.

VOLUME VII.

Edited by E. T. BROWN.



QUARTERLY

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LONDON:

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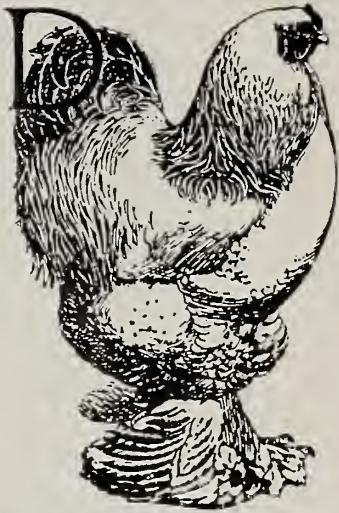
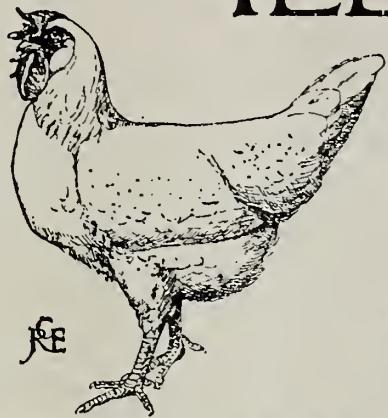
The Illustrated Poultry Record,
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A PARTRIDGE WYANDOTTE.
A Winner of Many Prizes in the Show Pen

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THE ILLUSTRATED POULTRY RECORD



Vol. VII.—No. 4.

September, 1915.

Quarterly, Price, Sixpence.

AN EDITORIAL DIARY.

EDITORIAL NOTICES.

TUDOR HOUSE, TUDOR STREET, WHITEFRIARS,
LONDON, E.C.

The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs or sketches, and publication in the ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor would like to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The ILLUSTRATED POULTRY RECORD is published on the 15th of March, June, September, and December. Should readers experience any difficulty in securing their copies promptly, they are requested to communicate immediately with the Editor.

The latest date for receiving advertisements is the 8th of the month.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser, he is requested to communicate at once with the Editor.

Signs of Progress.

It is not our function to deal in any measure with the European war as such. Readers obtain news and views, false and true, in the daily papers until they are well-nigh surfeited. What we are compelled to realise are the effects as we see them around us every day, and as far as possible anticipate what will follow when this, the most critical period within the knowledge of anyone living, is over. On all sides is the fact finding acceptance that the United Kingdom must depend to a greater extent than ever before upon its own resources for food. Therefore we find that many movements are taking place in that direction. Departmental committees have been appointed for the three agricultural sections of the kingdom to consider the questions involved. Thus far these have mainly been concerned with wheat production. No doubt in process of time they will deal with other branches, inclusive of poultry. The various Boards of Agriculture are urging the desirability of increasing production. County authorities are commencing to work in their respective areas on similar lines. Village War Food Societies are proposed to organise in local centres. The Press is taking a notable part; and in a score other directions there is a degree of education at work which ought to have a very potent influence. Imports have fallen enormously and prices have advanced; so that, in spite of the increased cost of feeding stuffs, now happily not so great as a few weeks ago, poultry-keepers are having the opportunity of their lives. What we are anxious to see is that by unity of effort and of action the last-named may rise to the occasion. The meeting reported in this issue is a welcome sign in this direction.

Foxes and Sport.

Much remains, however, to be done, specially in the direction of removing hindrances to development. First may be named the difficulty arising from losses to which poultry-keepers in many rural districts are exposed from foxes. In Cumberland and Westmorland the destruction of lambs has been very great also. The case was bad enough when hunting was in full swing prior to the outbreak of war. Reduction of that sport, together with so many keepers and others having gone to the front or taken up other duties, have led to a great increase of these predatory animals, which have free course to do almost as they like, for which poultry-keepers are paying heavily. Some have taken the law into their own hands, and it would appear that such must become general wherever the trouble arises. Hunting men have only themselves to blame if that is the case. We still find, also, many who look upon sport as of greater importance than poultry, and are exerting as powerful an influence against the last-named as in days gone by. That is chiefly seen in connection with such occupiers as are already on the land. Further, the difficulty in obtaining land is as great as ever. When we remember the vast areas which might be productive and are now practically useless, it is evident that many changes will have to be made ere what is being suggested can be accomplished.

Where Success Lies.

The hindrances referred to above must be removed if development is to be in any sense adequate to the national requirements, and in such directions efforts should be put forth of a determined nature. So far as our observations have gone, the movements for advance have mainly been manifested among smaller producers. These are all to the good, and will contribute materially to that increase of production so imperatively required to fill the gap and to retain money which is better expended at home than sent abroad. One factor of supreme importance is that all shall be conducted on an economic basis, in which direction national and personal gain are inseparable. It would be folly increasing the home supply of eggs and poultry unless between the cost and realisable values there is an adequate margin of profit to repay the time, labour, and effort expended. It is because we are firmly convinced that both can be accomplished a vastly increased production is advocated. At the same time, some of the schemes put forth are, to say the least, doubtful economically. Those can have no permanency. The back-yard and garden poultry-keeper can help materially. With these rent and labour do not enter. Theirs is a supplementary pursuit. In addition there is the rural community—farmers and others—to whom we must ever look for the great bulk of produce.

They are much more difficult to move and need persistent effort. Their opportunities, however, are very great, and from them our people can obtain a volume to be secured in no other way.

The Paynter Demonstration.

In association with farming, whether occupations be large or small, a most valuable report is that published in the July issue of the *Journal of the Board of Agriculture* as to egg-production at Morden Hall, Cambs. Too much publicity cannot be given to this demonstration. Briefly stated, it was that in August, 1914, at the time when war broke out, there were on the place named about 1,200 late-hatched pullets (after May 15) of breeds in which flesh qualities are pre-eminent. These were intended for killing during the summer. It was decided to retain about a thousand in order to test how far such unsuitable birds would prove profitable as egg-layers. Two and a half acres of fresh land was divided into forty runs, in each of which was placed an ordinary Sussex ark, plus laying boxes, for accommodation of a flock numbering twenty-five. Certainly there was none too much space in the sleeping quarters, and the runs, 30 yards by 9 yards, gave a ground space equal to nearly 100 square feet per inmate. There were 400 birds to the acre. The entire cost of equipment was a few shillings over £120. All the food had to be purchased. Soft food was given in the morning, consisting of meal, 1lb.; Spratt's poultry meal, 1lb. 10oz.; bran, 1lb 10oz.; sharps, 8lb.; mixed in the usual way with hot water. The evening grain was wheat, 2 parts; maize, 1 part; and oats, 1 part; together with grit, oyster shell, and clean water. The feeding was not, therefore, cheap. From October 1, 1914, to May 30, 1915, these pullets laid 70,797 eggs, which realised wholesale through a London salesman, after payment of carriage and commission, £400 9s. 9d. For eight months the gross margin over the food cost was £115 17s. 6d. No better example of the value of the colony method has been published. It is only necessary to add that the result was achieved by simple and inexpensive equipment, by careful feeding and control, and that the land was fresh. Hens so thickly kept would necessitate entire removal at the end of every year. With breeds more of the laying type it may reasonably be expected that the results would have been even more striking.

The South-Western Demonstration Train.

The demonstration referred to above fully justified the Board of Agriculture in its promotion. We deeply regret that another praiseworthy effort supported by that department was not equally satisfactory—namely, the Egg and Poultry Demonstration Train, arranged by the Agricultural Organisation Society, which toured through Dorset, Somerset, Devon, and Cornwall in July. The previous expeditions of the same nature in

Wales proved most successful and justified further efforts in the same direction. It is not enough, however, to equip a train and to have good speakers and demonstrators. With exception of the fact that the vans employed were inconvenient for visitors and that a mistake was made by the addition of killing, plucking, and trussing chickens, which are more suitable for class teaching, the general arrangements appear to have been good. The comparative failure in attendances, except when Cornwall was reached, as there efforts were put forth by the railway company and others to awaken interest, and the absence of any marked interest in the districts

to poultry is false economy at this time, causing a larger amount of money to be sent out of the country, and that it should be made into bread. The staff of life is the basis of all human food supplies, but "man does not live by bread alone," he needs something to make it go down, especially in these days of sedentary occupations and intensive living. Nutrition, as revealed by analysis, is not everything. Palatability and digestibility have to be taken into consideration. If the suggestion made is carried to its legitimate issue, grain or meal should not be fed to horses or cattle or sheep or pigs, and as to the turning of flour into puddings, even to a small degree, or into biscuits,



A FARMYARD SCENE IN BUCKINGHAMSHIRE.

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visited, appear to have been due to inefficient organisation. So valuable is this method, so great productively have been the influences of previous egg-trains, that we anticipated a like result in this case, the absence of which may prove a deterrence in respect to further proposals of a like nature. That would be most unfortunate.

A False Deduction.

Amidst all the advocacy of increased egg-production, from official and other sources, the solitary voice in opposition is that of our old friend Professor James Long, who has stated in one of the London dailies that the feeding of grain

to say nothing of the use of barley for beer, these are wasteful in the extreme, according to the theory put forward. Every one will admit that we should use less grain for poultry and find other classes of feeding stuffs, especially of a vegetable nature and what would otherwise be waste products, but some grain is desirable and far more than compensates for the cost.

Table Poultry.

One of the most pleasing aspects that has recently presented itself is the recovery in prices of chickens and other table poultry. The slump of last summer and autumn, when prices fell to so

serious an extent, has passed. That was in some measure due to the large number of birds placed upon the market from a fear that to keep them would be unprofitable, as well as reduction of demand by cutting down of expenditure in multitudes of households. The recovery is satisfactory in the extreme. With the enhanced cost of beef, mutton, and pig flesh, and perhaps a limitation in respect to quantities of meat eaten, people are finding that a good fowl is as cheap as anything else, giving just that variation which is necessary to complete nutrition. So far as can be foreseen poultry-keepers are well advised to advance steadily the number of chickens bred and thus to keep up the home food supply. Visits in different parts of the country recently have shown that there is an increasing demand for table poultry. Our industrial population are earning good money, but they are working very hard and require food that will enable them to bear the strain, to replace the lost energy, in which direction eggs and poultry occupy a prominent place and have a useful function to perform.

Various Services.

A man's body is said to grow in the night time, not during the hours of daylight. So may it be that the present period of adversity and of national stress will lead to quickened realisation of developments that it would have taken many years to secure. Progress is thus accelerated. That, however, is not all, for a spirit of self-sacrifice and of service to our fellows which will exert a wide influence is abundantly manifested. Among these may be named the Belgian Poultry Scheme adopted by the *Feathered World*, steadily increasing in anticipation of the time when that country is clear of the German hordes and reconstruction can be attempted. For such days we are all longing. Then there are the eggs for the wounded initiated by the *Poultry World*, the results of which have been so great, reaching the maximum when more than a million eggs were received within a week. In this way an immediate service is being rendered. Thousands of humble cottagers have given their half-dozen eggs weekly for the brave fellows who are the living victims of this awful conflict. Travelling in various rural districts we have been much touched by the devotion of all classes and, not least, of the children, some of whom by writing their names on the shells have received postcards from wounded men, which they will ever value. There is also the greater question of what can be done for maimed men to help them to make their living. The saddest of all are our blinded soldiers, and into this work Captain Peirson-Webber has thrown himself with zeal and devotion. He is himself a living example of how a man can rise superior to one of the greatest calamities that can come to anyone—the loss of sight.

Poultry in Scotland.

Among the many important recommendations made by the Scottish Departmental Committee on Food Supplies the value of the poultry industry is recognised, and it may be anticipated that the recommendations of this committee may be put into operation as follows :

The attention of the committee has been given closely to the matter of increasing the production of food by means of poultry. It was generally admitted by witnesses that in recent years the industry of poultry-keeping had greatly extended in Scotland, but it was strongly maintained that there was still very great room for development. Not only are unprofitable fowls, from the point of view of egg-production, kept on many farms, but not infrequently the birds are only of small value as table fowls. It is hoped that in the coming season every effort will be made to breed as many young table fowls as possible, and at the same time get the maximum production of eggs. They trust that the scheme of the Board of Agriculture for Scotland for the improvement of poultry may be further extended and developed.

Utility Poultry Club.

For some time the question of reorganisation of this Society has been under consideration, and in May last a sub-committee was appointed for the purpose of drafting a scheme. The report and recommendations have been issued and in process of time will be submitted to members in whose hands the decision remains. The proposals made provide for a much enlarged scope of operations, inclusive of departments which have hitherto been touched to a very limited extent. That such reconstruction is desirable has been generally admitted, and that the need for a central body capable of dealing with practical poultry work as a whole is urgently required is evident. Upon the details of this scheme it is not our business to dwell. We sincerely hope, however, that the proposals may be carried in principle and that this useful Society may take full advantages of the great opportunity afforded.

Imports.

During the month of August supplies of eggs from abroad were larger than a year ago, chiefly from Russia, and other countries not separately enumerated. Danish shipments were little more than half and French practically nil. On the other hand poultry were very small indeed. Taking the eight months ending August 31, which is the true test, the imported eggs were 6,433,400 great hundreds as against 13,419,530 great hundreds in the same period of 1913, a drop of 48 per cent., or upwards of 58,000 tons. In the same period of 1915 imports of dead poultry were 113,871 cwts. as against 196,573 in 1914, a drop of 4,135 tons, or 58 per cent. These are very suggestive figures and explain much.

TIME OF HATCHING PULETS IN RELATION TO PERIOD OF LAYING AND TOTAL EGG-PRODUCTION.

By EDWARD BROWN, F.L.S.



INTER egg-production is one of the problems presenting itself for solution to poultry-keepers of every class.

That is the case in all countries equally with our own, for it is restricted to no land or clime. The enormous extent to which eggs have entered into the food supply of civilised nations, and the rapid increase of consumption, not seasonably but the year round, is recognised. Hence methods of preservation are adopted to carry over from the period of greater to that of lesser production; also the fact that preserved eggs six or more months old often sell in winter at much higher rates than new-laid in the spring, which latter would then be much lower were not the former withheld from the market in the way stated. At the same time, these preserved eggs during the months of scarcity usually realise forty to fifty per cent. less than those which are of immediate production. Prices are greater *pro rata* during the autumn and winter months. From the changes which will supervene as a result of the European war it is probable that overseas supplies of eggs from October to February will be much smaller than heretofore, and that in this country we shall have to depend more than ever upon home production.

The recommendation is frequently made that in order to obtain a higher average of winter eggs it is necessary that hatching should take place earlier than is usual. Until the time when incubators became effective such was a pious opinion rather than a possibility. Everything depended upon when the hens were prepared to undertake maternal duties. The fact is, however, evident that, in spite of artificial methods of hatching and rearing, the shortage of eggs in winter has steadily increased year by year, partly, no doubt, owing to demand, which has grown enormously. Such evidence as is available would indicate that this scarcity is actual, not merely comparative, and that, considering the larger number of hens in the country, there has been no appreciable advance in egg-production during the winter cycle of the year, save in exceptional instances, of which a few may be found in every district, and which are by no means new or novel.

Upon the question thus involved we have not had any clear data by which to form an opinion based upon actual results. That early hatching is generally desirable can be accepted. At the same time, many complaints are met with that,

even where such system is adopted, pullets do not commence to lay when expected.

With a view, therefore, of contributing towards the solution of this problem, the following study has been made of the complete and exhaustive figures presented in the report of the last twelve months' laying competition, held at the Harper-Adams Agriculture College, Newport, Salop. The calculations given below are extracted therefrom, and deal with White Wyandottes and White Leghorns, from the fact that these were the most numerous of the competing breeds, and also that they are the two most prominent for egg-production, representing two distinct types, the former



A BLACK ORPINGTON HEN.

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of which is usually regarded as a better winter layer by nature than the latter. It is necessary to point out, first, that the 128 White Wyandottes and 82 White Leghorns included were received from thirty-five competitors scattered over many parts of the country, and were doubtless carefully selected for the purpose of this contest, for which reason it is improbable that 210 pullets bred upon any one place would have given equal results; second, that change of conditions may influence production in either direction, and we must accept the results arrived at as they are; third, that as the pens were separated into groups of six, results from larger flocks would probably vary considerably; and, fourth, that all birds which died or were removed, whether replaced or not, are omitted, for the reason that if replaced the second birds might vary greatly from the firsts.

WHITE WYANDOTTES.

In Table I. are given Pen Averages, showing the number of pullets which continued throughout the year, the dates of hatching as stated, the average age in days of pen when the first eggs were produced, the average number of eggs laid by hens in the pen, and the range of individual production. In many records the date hatched is said to be "March," "early March," "late March," and so on. Where definite dates are not given the plan adopted has been as follows: "March;" 15th; "early March," 10th; "late March," 20th, which, whilst not absolutely, is probably approximately correct.

TABLE I.—PEN RECORDS, WHITE WYANDOTTES.

| Pen. No. | No. of hens (omitting dead). | Dates hatched. | Average No. of days old when First Egg laid. | Average No. of Eggs per hen. | Range of Individual Production. |
|--------------|------------------------------|----------------|----------------------------------------------|------------------------------|---------------------------------|
| 1 ... 5 ... | { Late Feb. (2) } | 317.2 | 164.4 | 101 to 222 | |
| 2 ... 5 ... | { Early March (3) } | 242.4 | 227.0 | 189 .. 258 | |
| 3 ... 6 ... | February 4 | 286.6 | 191.8 | 167 .. 214 | |
| 4 ... 6 ... | March 27 | 252.3 | 193.5 | 166 .. 210 | |
| 5 ... 6 ... | March | 272.8 | 216.67 | 183 .. 258 | |
| 6 ... 6 ... | do. | 224.33 | 223.17 | 201 .. 238 | |
| 7 ... 5 ... | { March (1) } | 257.2 | 178.2 | 102 .. 217 | |
| 7 ... 5 ... | { April (4) } | | | | |
| 8 ... 6 ... | { March 18 (5) } | 268.1 | 192.33 | 158 .. 248 | |
| 9 ... 6 ... | { April 11 (1) } | | | | |
| 9 ... 6 ... | { Early March (5) } | 239.5 | 201.33 | 159 .. 269 | |
| 10 ... 6 ... | { April (1) } | | | | |
| 10 ... 6 ... | { March 10 (3) } | 310.16 | 152.67 | 106 .. 252 | |
| 11 ... 6 ... | { March 30 (3) } | | | | |
| 11 ... 6 ... | Late March... | 280.16 | 204.0 | 164 .. 237 | |
| 12 ... 6 ... | do. | 252.14 | 194.67 | 151 .. 212 | |
| 13 ... 6 ... | { January 3 (3) } | | | | |
| 13 ... 6 ... | { January 23 (3) } | 333.16 | 156.83 | 79 .. 227 | |
| 13 ... 6 ... | { April 18 (1) } | | | | |
| 14 ... 5 ... | March 21 | 276.4 | 171.2 | 130 .. 201 | |
| 15 ... 5 ... | { March (3) } | 253.4 | 214.8 | 205 .. 239 | |
| 16 ... 5 ... | April (2) | | | | |
| 16 ... 5 ... | Late March... | 288.0 | 191.0 | 156 .. 224 | |
| 17 ... 6 ... | Early April ... | 230.5 | 186.66 | 132 .. 233 | |
| 18 ... 5 ... | March | 224.8 | 202.66 | 179 .. 237 | |
| 19 ... 5 ... | { Early April (4) } | | | | |
| 19 ... 5 ... | { Late April (1) } | 224.4 | 184.2 | 116 .. 210 | |
| 20 ... 5 ... | { February (2) } | 290.8 | 179.8 | 127 .. 279 | |
| 21 ... 5 ... | March (3) | | | | |
| 21 ... 5 ... | April | 214.8 | 211.2 | 174 .. 245 | |
| 22 ... 5 ... | Middle February | 269.0 | 188.6 | 171 .. 209 | |
| 23 ... 6 ... | March... | 277.16 | 153.0 | 76 .. 265 | |
| 24 ... 1 ... | March 15 | 236.0 | 214.0 | 2 .. 24 | |

There are many interesting deductions that can be drawn from this table, the most striking of

which is the remarkable range of production, varying from 76 to 279 eggs. Presumably it may be assumed that each pen or lot, except where stated, were bred at the same time, probably in many instances from the same parents; hatched, reared, and fed in the same manner and under identical conditions; yet the variations, equally as to time when first egg was laid and number of eggs produced, are very wide. Leaving out the very low numbers, one instance (Pen 9) may be cited: One pullet that hatched in April laid in 193 days, 1 in 229 days, 2 in 231 days, 1 in 246 days, and 1 in 307 days. The eggs produced were: 2 hens each laid 159 eggs, 1 laid 179, 1 (April) 216, 1 laid 225, and 1 laid 269 eggs. The only pen for which any claim could be made as to the value of strain was No. 6, March hatched, all of which commenced to lay within two days—namely, 4 in 224 days and 2 in 225 days. The laying was 201, 227, 230, 231, and 238 (2) eggs respectively. Whether in this the quality of production has been fixed as to time of laying (32 weeks), together with considerable equality in productivity, cannot be stated. Such is absent in every other pen.

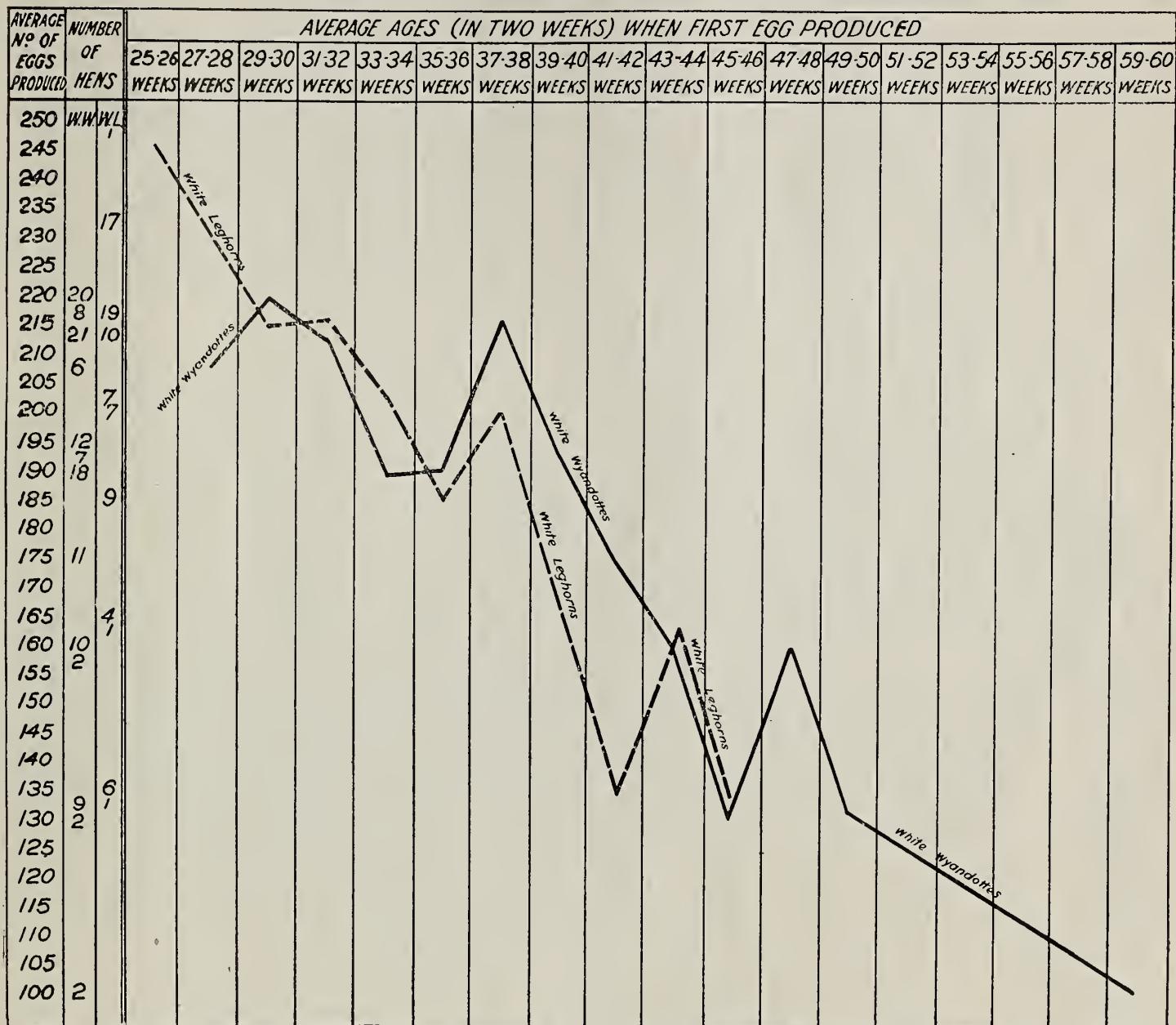
In such a question as that of economic egg-production the performances of exceptional individuals, either high or low, has small influence upon the financial results, which are determined by the average of the entire flock. In Table II. are given figures showing the influence of early laying upon the yearly number of eggs, dividing the time when the first egg was produced into groups of two weeks.

TABLE II.—AGE OF LAYING COMPARED WITH YEARLY EGG-PRODUCTION OF WHITE WYANDOTTES.

| No. of Weeks and Days after hatching, First Egg Laid. | No. Weeks. | Average Age when First Egg Laid. | Range of Egg Production. | Total No. of Eggs. |
|-------------------------------------------------------|---------------|----------------------------------|--------------------------|--------------------|
| 29-30 .. | 197-210 | 6 .. 200.83 | 174 to 245 .. | 208.16 |
| 31-32 .. | 211-224 | 20 .. 221.5 | 179 .. 245 .. | 221.5 |
| 33-34 .. | 225-238 | 21 .. 227.76 | 159 .. 265 .. | 214.83 |
| 35-36 .. | 239-252 | 18 .. 246.55 | 76 .. 233 .. | 190.5 |
| 37-38 .. | 253-266 | 7 .. 256.42 | 132 .. 258 .. | 191.57 |
| 39-40 .. | 267-280 | 8 .. 276.75 | 122 .. 279 .. | 217.37 |
| 41-42 .. | 281-294 | 12 .. 287.83 | 154 .. 227 .. | 193.41 |
| 43-44 .. | 295-308 | 11 .. 299.54 | 116 .. 207 .. | 175.54 |
| 45-46 .. | 309-322 | 10 .. 318.4 | 90 .. 206 .. | 161.4 |
| 47-48 .. | 323-336 | 9 .. 329.66 | 101 .. 183 .. | 132.44 |
| 49-50 .. | 337-350 | 2 .. 342.00 | 128 .. 194 .. | 161.00 |
| 51-52 .. | 351-364 | 2 .. 353.5 | 127 .. 138 .. | 132.5 |
| | Over 52 weeks | 2 .. 418.0 | 79 .. 123 .. | 101.0 |
| No. & General Averages | | | | |
| | 128 .. | 265.9 .. | 76 .. 279 .. | 190.36 |

In connection with the above table it is necessary to remember that the opening day of the competition was October 25, 1913, on which date 22 hens are recorded to have laid. It may be assumed that a fair proportion of these were already laying at that time, but if such was the case no record is given. As a consequence the October figures are incomplete, and do not compare with the following months, as there were only seven days. Accepting these, it is seen that pullets began to lay when 198 days old (28.28 weeks), and that one hen was 428 days old (61.14 weeks) before

DIAGRAM I.—VARIATIONS IN TOTAL AVERAGE EGG-PRODUCTION DURING YEAR IN RELATION TO AGES WHEN FIRST LAID.



White Leghorns: 1st egg laid in 181 days to 310 days.

White Wyandottes: 1st egg laid in 198 days to 428 days.

she produced an egg. Only one unrecorded egg was found in her group, and that was not until August.

What has already been stated as to variations is again emphasised. The average is at end of the thirty-eighth week after hatching, which in these birds was the mean. That to secure a large egg-production in the entire year early laying is imperative these birds abundantly prove, though some of those which did not start until they were more than nine months old gave a high average.

The time of hatching in its bearing on yearly production is indicated in Table III.

TABLE III.—TIME OF HATCHING AND AGE OF PRODUCTION OF WHITE WYANDOTTES.

| Month Hatched. | No. of Hens. | Av'ge Days Old First Egg Laid. | Av'ge Yearly No. of Eggs. |
|-------------------|-----------------|-----------------------------------|------------------------------|
| January | 5 | 342.4 | 157.2 |
| February | 15 | 288.0 | 190.0 |
| March | 84 | 276.13 | 191.16 |
| April | 24 | 239.91 | 194.71 |

Probably the hens hatched in January had already laid a number of eggs prior to the opening of the competition, in which case the average age as stated above is unfair to them. Further, that such earlier laying would tend to the hens becoming broody sooner than might otherwise be the case, in which direction the average yearly number of eggs would be reduced. From the figures as given it is seen that the average number of eggs varied very little whether the birds were hatched in February, March, or April, and that those hatched in April, nearly seven weeks younger than the February hatched average, produced a slightly higher average of eggs. In this case also it is probable that some of the last-named had been in lay before the contest commenced.

Table IV. is of interest, showing that of hens hatched in February the percentage which com-

menced to lay in November was the highest of all, those hatched in March making a good second. Of the April birds 66.67 per cent. were laying by November 30, and 87.50 per cent. by December 31.

TABLE IV.—MONTH HATCHED IN RELATION TO FIRST EGG LAID (WHITE WYANDOTTES).

| Laying Commenced. | January | | February | | March | | April | |
|----------------------|---------|----------|----------|----------|-------|----------|-------|----------|
| | No. | Hatched. | No. | Hatched. | No. | Hatched. | No. | Hatched. |
| | Hens. | Cent. | Hens. | Cent. | Hens. | Cent. | Hens. | Cent. |
| October | 2 | 40.00 | 3 | 20.00 | 23 | 27.39 | 6 | 25.00 |
| November ... | 1 | 20.00 | 10 | 66.66 | 22 | 26.19 | 10 | 41.67 |
| December ... | — | — | 1 | 6.67 | 10 | 11.91 | 5 | 20.83 |
| January | — | — | — | — | 15 | 17.85 | 3 | 12.50 |
| February | — | — | 1 | 6.67 | 14 | 16.66 | — | — |
| March | 2 | 40.00 | — | — | — | — | — | — |
| Totals.. | 5 | 100.00 | 15 | 100.00 | 84 | 100.00 | 24 | 100.00 |

It has previously been pointed out that winter egg-production is of great importance, which is true to a larger extent than the yearly total, not merely as a question of food supply, but in respect to cash returns. A hen has to be fed whether she is in profit or not. The fifty-two weeks of this competition have been divided into three periods —namely (1) winter cycle of 16 weeks (October 25 to February 13), (2) spring cycle of 20 weeks (February 14 to July 3), and (3) summer and autumn cycle (July 4 to October 24), as set out in Table V.

TABLE V.—MONTH HATCHED IN RELATION TO NUMBER OF EGGS IN CYCLES OF YEAR.

(WHITE WYANDOTTES.)

| Month Hatched. | I. Winter II. Spring III. Summer | | No. of Hens. | No. of Hens. | | No. of Hens. | |
|-------------------|----------------------------------|---------------------|-----------------|---------------------------------|--------------------------------|--------------------------------|--------------------|
| | Cycle: 16 weeks. | Cycle: 20 weeks. | | Cycle: Oct. 25 to Feb. 13 | Cycle: Feb. 14 to July 3 | Cycle: July 4 to Oct. 24 | Average Totals. |
| | 16 weeks. | 20 weeks. | | | | | |
| January | 5 | 44.2 | 72.00 | 41.00 | 157.2 | — | — |
| February | 15 | 53.46 | 91.00 | 45.54 | 190.00 | — | — |
| March | 84 | 48.37 | 92.32 | 50.47 | 191.16 | — | — |
| April | 24 | 54.96 | 92.21 | 47.54 | 194.71 | — | — |

In this case also the April hatched hens were first in the winter cycle, with those brought out in February second. So far as the spring cycle was concerned there was very little difference between such as were hatched in February, March, or April. Further facts are brought out in Table VI., which shows very strikingly the influence of winter egg-production upon the yearly totals.

TABLE VI.—MONTH HATCHED IN RELATION TO AVERAGE WINTER AND YEARLY EGG-PRODUCTION.

(WHITE WYANDOTTES.)

| Month Hatched. | Under 50 Eggs in Winter. | | 50 to 65 Eggs in Winter. | | 66 Eggs and over in Winter. | | No. of Hens. | | |
|-------------------|-----------------------------|-----------------|-----------------------------|-----------------|--------------------------------|-----------------|--------------|-------|--------|
| | No. | Winter Average. | No. | Winter Average. | No. | Winter Average. | | | |
| | Average Year. | Complete Year. | Average Year. | Complete Year. | Average Year. | Complete Year. | | | |
| January.. | 2 | 0.00 | 101.00 | 1 | 61.00 | 151.00 | 2 | 80.00 | 216.5 |
| February .. | 3 | 6.00 | 115.33 | 5 | 57.00 | 189.4 | 7 | 71.43 | 221.00 |
| March ... | 37 | 19.33 | 167.08 | 13 | 60.07 | 195.53 | 34 | 75.56 | 215.67 |
| April .. | 7 | 28.85 | 164.28 | 10 | 57.00 | 198.2 | 7 | 78.14 | 220.00 |

How far size of egg is influenced by age at which a pullet comes into profit is a question upon

which opinions and experiences vary. It is frequently found that as the number of eggs per hen advances the tendency to reduction in size and weight of eggs all through the year also increases. With a view of appreciating values, the system of grading eggs and according marks in this relationship has been adopted for these competitions in order to compel breeders to keep size of eggs prominently forward. That this is necessary appears evident from the individual scores given in the report, and which are too long to quote fully. It is of interest to note how far the time when hens began to lay influenced the size of eggs over the entire year. That is shown in Table VII.

TABLE VII.—SIZE OF EGGS IN RELATIONSHIP TO MONTH WHEN LAYING COMMENCED.

(WHITE WYANDOTTES.)

| Laying Commenced. | No. of Hens. | Grades of Eggs. | | | |
|----------------------|-----------------|-----------------|-------|------|------|
| | | 1st. | 2nd. | 3rd. | 4th. |
| October | 34 | 83.39 | 15.32 | 1.20 | 0.09 |
| November | 43 | 84.23 | 15.01 | 0.75 | 0.01 |
| December | 16 | 95.75 | 4.22 | 0.03 | — |
| January | 18 | 96.74 | 3.26 | — | — |
| February | 15 | 94.41 | 5.44 | 0.15 | — |
| March | 2 | 99.59 | 0.41 | — | — |

It is evident from the above that as the period at which laying commences is delayed there is a marked increase in the size and weight of eggs produced. Those from what may be termed December and January hens were nearly 15 per cent. larger than from such as commenced laying in October and November. From a breeding point of view this is of even greater importance than in the case of eggs for market.

WHITE LEGHORNS.

Applying the same methods to this section in Table VIII. are given records on the same basis as in Table I.

TABLE VIII.—PEN RECORDS, WHITE LEGHORNS.

| Pen. No. | No. of hens (omitting dead). | Dates hatched. | No. of days old when First Egg laid. | | Average No. of Eggs per hen. | Range of Production. |
|----------|------------------------------------|-----------------------------|-----------------------------------------------------|-----------------------|---------------------------------------------|-------------------------|
| | | | Average No. of days old. | First Egg laid. | | |
| 33 | 6 | April | 248.66 | 178.17 | 139 to 230 | |
| 34 | 6 | April 5 (5) | 252.66 | 191.00 | 132 , 228 | |
| 35 | 5 | April 15 (1) | 208.33 | 225.00 | 180 , 282 | |
| 36 | 4 | April 28 (1) May 3 (3) | 216.5 | 149.00 | 133 , 167 | |
| 37 | 6 | April 1 (3) April 21 (3) | 244.83 | 203.5 | 117 , 252 | |
| 38 | 6 | April 20 (3) May 1 (3) | 207.5 | 232.16 | 152 , 288 | |
| 39 | 6 | April | 207.5 | 214.2 | 178 , 245 | |
| 40 | 5 | Late March | 259.0 | 204.8 | 184 , 239 | |
| 41 | 6 | April 15 | 209.66 | 221.7 | 190 , 237 | |
| 42 | 6 | April | 245.83 | 217.3 | 169 , 276 | |
| 43 | 5 | May 13 | 198.33 | 207.2 | 171 , 244 | |
| 44 | 6 | April | 231.16 | 197.00 | 53 , 257 | |
| 45 | 6 | April 1 | 244.16 | 207.3 | 164 , 263 | |
| 46 | 3 | March 29 | 218.16 | 208.00 | 152 , 257 | |
| 47 | 6 | April | 220.66 | 186.2 | 137 , 283 | |

It will be seen that whilst, as might be expected, the average number of days after hatching is less in White Leghorns than in Wyandottes, the range of individual production, as, in fact, of days at which the first egg was laid, is greater. Here, again, is no evidence as to the

influence of strain in equality of performance, save to some degree in pen No. 41, in which the days after hatching at which the first eggs were laid were as follows: 1, 193 days; 1, 205 days; 1, 211 days; 1, 215 days; 1, 216 days; and 1, 218 days, thus varying three and a half weeks. The eggs laid were: 190, 232, 235, 237, 202, 233 respectively of hens in the order given. At the opposite extreme is pen 33. Days after hatching at which first egg was recorded: 193, 201, 265, 275, 277, and 291, the eggs from which were respectively as follows: 175, 209, 230, 174, 140, and 139.

The comparison with Table II. is now given.

TABLE IX.—AGE OF LAYING COMPARED WITH YEARLY EGG-PRODUCTION OF WHITE LEGHORNS.

| No. of Weeks and Days after hatching, First Egg Laid. | Average Age when First Egg Laid. | Average Range of Egg Production. | Total No. of Eggs. |
|-------------------------------------------------------|----------------------------------|----------------------------------|----------------------|
| Weeks. | Days. | Hens. laid in days | Production. |
| 25-26 .. | 169-182 .. | 1 .. 181.00 .. | 248 .. 248.00 |
| 27-28 .. | 183-196 .. | 17 .. 192.22 .. | 152 to 288 .. 231.00 |
| 29-30 .. | 197-210 .. | 10 .. 202.6 .. | 137 .. 278 .. 216.3 |
| 31-32 .. | 211-224 .. | 19 .. 217.79 .. | 133 .. 267 .. 217.05 |
| 33-34 .. | 225-238 .. | 7 .. 232.28 .. | 152 .. 243 .. 204.43 |
| 35-36 .. | 239-252 .. | 9 .. 245.44 .. | 135 .. 227 .. 186.88 |
| 37-38 .. | 253-266 .. | 7 .. 258.57 .. | 167 .. 230 .. 201.66 |
| 39-40 .. | 267-280 .. | 4 .. 274.00 .. | 140 .. 176 .. 163.00 |
| 41-42 .. | 281-294 .. | 6 .. 289.66 .. | 53 .. 182 .. 135.00 |
| 43-44 .. | 295-308 .. | 1 .. 308.00 .. | 164 .. 164.00 |
| 45-46 .. | 309-322 .. | 1 .. 310.00 .. | 132 .. 132.00 |
| No. & Total Averages | | 82 .. 228.17 .. | 53 to 288 .. 204.22 |

Out of the above pullets seven laid on October 25, some of which had possibly laid previously. With this breed it is probable that the number would be less than with White Wyandottes. The shortest and longest periods at which laying commenced after hatching were: one pullet 181 days old (nearly 26 weeks), one 310 days (51.4 weeks) respectively. The mean of laying in White Leghorns is $32\frac{1}{2}$ weeks. A further support is here given to the view that early laying is necessary to a high average egg-production.

Table X. deals with time of hatching in its influence upon yearly average egg-production.

TABLE X.—TIME OF HATCHING AND AGE OF PRODUCTION.

(WHITE LEGHORNS.)

| Month Hatched. | No. of Hens. | Average Days Old First Egg Laid. | Average Yearly No. of Eggs. |
|----------------|--------------|----------------------------------|-----------------------------|
| March | 8 | 234.75 | 205.62 |
| April | 63 | 230.39 | 203.06 |
| May | 11 | 210.63 | 209.27 |

With White Leghorns is the startling record that the May hatched pullets laid in three weeks shorter time than those brought out in March and April, and yielded an average per hen of 3.65 more eggs than the March birds and 6.21 more than the April birds. In this connection it must be remembered that the number of April birds is much greater, and that some may have been laying previously to October 25. The last-named is of lesser importance, as there is not the same tendency to broodiness in this breed as with Wyandottes.

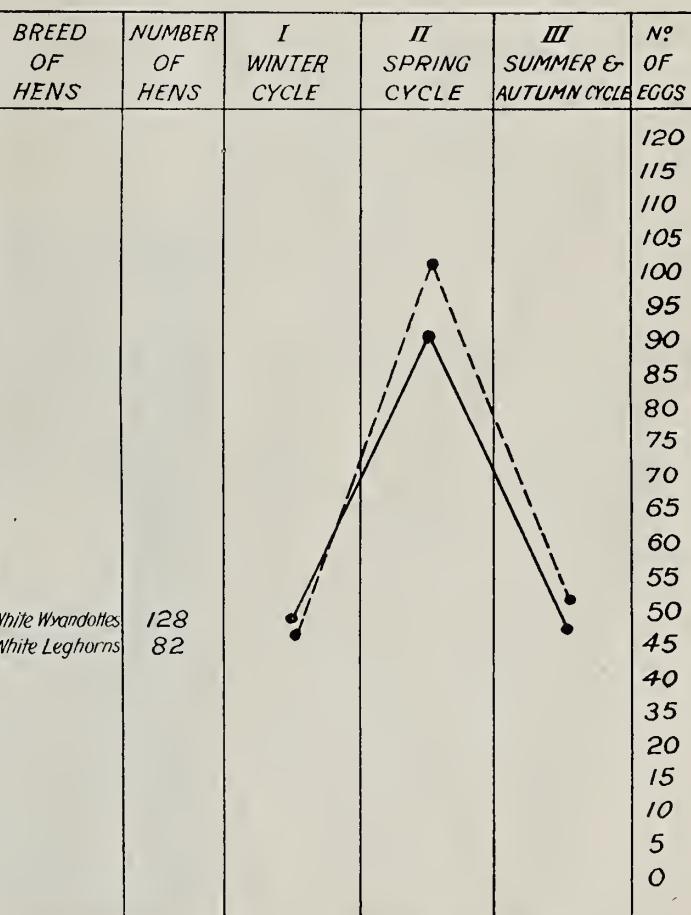
In Table XI. are figures that form an interesting comparison with those in Table IV.

TABLE XI.—MONTH HATCHED IN RELATION TO FIRST EGG LAID (WHITE LEGHORNS).

| Month Laying Commenced. | March Hatched. | | April Hatched. | | May Hatched. | |
|-------------------------|----------------|--------------|----------------|--------------|--------------|--------------|
| | No. of Hens. | Per-centage. | No. of Hens. | Per-centage. | No. of Hens. | Per-centage. |
| October | 1 .. | 12.5 .. | 15 .. | 23.81 .. | 2 .. | 18.18 .. |
| November | 6 .. | 75.0 .. | 25 .. | 39.68 .. | 4 .. | 36.36 .. |
| December | 1 .. | 12.5 .. | 8 .. | 12.7 .. | 2 .. | 18.18 .. |
| January | 0 .. | 0.0 .. | 11 .. | 17.46 .. | 3 .. | 27.28 .. |
| February | 0 .. | 0.0 .. | 4 .. | 6.35 .. | 0 .. | 0.0 .. |
| Totals .. | 8 .. | 100.00 .. | 63 .. | 100.00 .. | 11 .. | 100.00 .. |

A very suggestive and important fact is brought out, in view of the greater value of eggs in the winter months—namely, that of the March hatched hens 87.5 per cent. were in lay by November 30 and all by December 31. Of the April

DIAGRAM II.—COMPARATIVE AVERAGE EGG-PRODUCTION OF WHITE WYANDOTTES AND WHITE LEGHORNS IN THREE CYCLES OF YEAR.



birds 63.49 per cent. were laying by November 30, and 76.19 per cent. by December 31, leaving 23.81 per cent. to begin operations later. Of the May birds, 54.54 per cent. were laying by November 30, 72.72 per cent. by December 31, leaving 27.28 per cent. to begin in January. Such should be kept prominently forward in study of the problem presented.

Taking the cycles of the twelve months, as in Table V. for White Wyandottes, these are given for Leghorns in Table XII.

TABLE XII.—MONTH HATCHED IN RELATION TO NUMBER OF EGGS IN CYCLES OF YEAR (WHITE LEGHORNS).

| Month Hatched. | No. of Hens. | I. Winter Cycle: | II. Spring Cycle: | III. Summer & Autumn Cycles: | Average Oct. 25 to Feb. 13. 16 weeks. | July 3. 20 weeks. | July 4 to Oct. 24. 16 weeks. | Totals. |
|-------------------|-----------------|--------------------------------------------|-------------------------------------------|--------------------------------------------|---------------------------------------------|----------------------|---------------------------------|---------|
| | | Cycle: Oct. 25 to Feb. 13. 16 weeks. | Cycle: Feb. 14 to July 3. 20 weeks. | Cycles: July 4 to Oct. 24. 16 weeks. | Average Oct. 24. 16 weeks. | | | |
| March | 8 .. | 57.87 .. | 100.75 .. | 47.00 .. | 205.62 | | | |
| April | 63 .. | 48.32 .. | 102.90 .. | 51.84 .. | 203.06 | | | |
| May | 11 .. | 48.73 .. | 107.18 .. | 53.36 .. | 209.27 | | | |

The March hatched birds gave the better results in winter laying, and were more productive at that season than any of the Wyandottes. In Table XIII. these are brought out clearly.

TABLE XIII.—MONTH HATCHED IN RELATION TO AVERAGE WINTER AND YEARLY EGG-PRODUCTION (WHITE LEGHORNS).

| Month Hatched. | Under 50 Eggs in Winter. | | | 50 to 65 Eggs in Winter. | | | 66 Eggs & over in Winter. | | |
|-------------------|-----------------------------|--------------------|---------------------------|-----------------------------|--------------------|---------------------------|------------------------------|--------------------|---------------------------|
| | No. of Hens. | Winter Average. | Average Complete Year. | No. of Hens. | Winter Average. | Average Complete Year. | No. of Hens. | Winter Average. | Average Complete Year. |
| March .. | 41.66 | 160.66 | | 14 | 55.00 | 177.00 | 3 | 76.00 | 236.33 |
| April ... | 32 | 184.03 | | 14 | 56.5 | 209.5 | 17 | 76.76 | 233.59 |
| May | 5 | 168.00 | | 4 | 57.25 | 232.25 | 2 | 76.00 | 268.00 |

With reference to weight of eggs and how far this is influenced by period when laying commences, and monthly results are given in Table XIV.

TABLE XIV.—SIZE OF EGGS IN RELATIONSHIP TO MONTH WHEN LAYING COMMENCED (WHITE LEGHORNS).

| Laying Commenc'd. | No. of Hens. | Grades of Eggs. | | | |
|----------------------|-----------------|-----------------|----------|---------|------|
| | | 1st. | 2nd. | 3rd. | 4th. |
| October .. | 18 .. | 86.67 .. | 11.98 .. | 1.33 .. | 0.22 |
| November.. | 35 .. | 89.75 .. | 9.8 .. | 0.45 .. | — |
| December.. | 11 .. | 96.01 .. | 3.85 .. | 0.14 .. | — |
| January .. | 14 .. | 99.47 .. | 0.53 .. | — .. | — |
| February .. | 4 .. | 99.5 .. | 0.5 .. | — .. | — |

As in the case of White Wyandottes, the hens which commenced to lay early produced smaller eggs throughout the entire twelve months than those which came into profit later. The differences are not, however, quite so great, as the Leghorn eggs were 3.28 per cent. heavier in October and 5.52 per cent. in November than those from the Wyandottes. Eggs laid by hens commencing to lay in December and January were 10.8 per cent. heavier than from birds which came into profit during October and November.

CONCLUSIONS.

The Harper Adams Laying Competition, in so far as the White Wyandottes and White Leghorns which continued during the entire period of twelve months are concerned, show:

That in both the breeds named early laying was a prime factor in respect to the total average of eggs produced, and to the greater extent with White Leghorns.

That the 128 White Wyandottes and 82 White

Leghorns dealt with in these calculations offer no evidence of fixity of time when laying will actually commence, or of the number of eggs produced, as seen by the wide range of variation in both directions.

That very early hatching is undesirable and in the above hens had no practical results upon winter or annual egg-production, which appear to be dependent upon other as yet undefined influences.

That in both breeds the hens which commenced to lay at relatively early periods produced smaller eggs than those which began later.

WHITE WYANDOTTES.

That the average number of days after hatching when the 128 White Wyandottes commenced to lay was 265.9 (38 weeks), 72 of these hens produced the first egg prior to reaching that age and 56 later.

That the mean egg-production was 197.06 in the complete year; 64 hens laid more than the mean and 64 less, the range being 76 to 279 eggs.

That April hatched pullets began to lay in the shortest period and produced the greatest yearly average of eggs, March and February hatched birds taking second and third places respectively. From this it would appear that, provided the methods of rearing are conducive to early maturity and productivity, the period of hatching for this breed is from the middle of February to mid-April, tending for general flocks to the earlier dates, as these birds would not be reared specially with a view to competition.

WHITE LEGHORNS.

That the average number of days after hatching of the 82 White Leghorns commencing to lay was 228.17 (32½ weeks); 50 of these produced a first egg prior to the age named and 32 later.

That the mean egg-production was 204.22 per hen over the entire year, of which 41 hens laid more than the mean and 41 less, the range being from 53 to 288.

That May hatched pullets commenced to lay in the shortest period and produced the greatest yearly average of eggs. Between the March and April hatched birds the differences were very small. On the other hand, the March hatched birds made the highest average in the winter cycle, April and May pullets, which were almost the same, laying 16.5 per cent. less at that period. In the spring and summer cycles the May hatched birds were most prolific. From the above it may be concluded that the White Leghorn period of hatching is from the latter part of March to the middle of May to obtain eggs in winter; in this case, also, combined with satisfactory growth during the summer.

SELECTION OF BREEDING STOCK.

By F. W. PARTON.
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HE selection of birds intended for breeding purposes is of such vital importance that the work cannot commence too soon. As a matter of fact, from the very beginning an eye should be kept upon all promising young stock with a view to the final selection. It is not, of course, meant to imply that the time has arrived for the final selection. But this important item in the year's work is one that is very frequently delayed too long, and there is no doubt that the most successful man is he who is alive to the importance of being in time.

In September there should be no wasters remaining on the farm—wasters so far as appearance goes, since their laying powers have not yet been tested. This, however, can be foretold to a certain extent when the strain from which they sprang is known; and it is necessary to remember that the economic qualities are transmitted to the progeny as much as are the charac-

teristics sought after by the fancier. When I say that few, if any, wasters should be about at the present time, I mean that the exclusion of all chickens whose appearance did not warrant their remaining among the general flock should have taken place long ago. This exclusion should be exercised from the first day that the chickens are sufficiently advanced to determine with any degree of certainty what their future value is likely to be.

The chief advantage of selecting the prospective breeding pullets long in advance of the time when their eggs are required for hatching purposes is that they may be somewhat differently treated from those that are to comprise the general flock whose services are required for winter egg-production. For the latter purpose birds must be stimulated to a certain extent, and fed upon foods that are most likely to encourage eggs during the late autumn and winter. The pullets that are to be kept for breeding purposes in the spring should, on the other hand, be kept in a somewhat lean and hard condition. In the management of them endeavour should be made to reserve their energies until they are in occupation of the breeding-pen, when fertility, rather than merely a large number of eggs, is required. This, however, is not always an easy matter, especially where the custom is to breed from the general flock. When operations are conducted on these lines, it is quite out of the question to feed and manage a certain number of pullets in such a way that their energy and stamina are kept intact until spring.

Another very common mistake is that of purchasing several cockerels of various breeds and running them indiscriminately with the whole batch of females, old and young alike. Improvement in farm poultry will never be brought about when such haphazard methods are adopted. Suppose a farmer intends to keep several breeds of different types—a very necessary step when it is intended to cater for the supplying of more than one commodity—and that he has a larger number of pullets from which to make



A TYPICAL WHITE ORPINGTON PULLET. Copyright.

his selection; those that are intended to breed layers should be selected on different lines from those intended to produce table chickens, since the characteristics between the two types are quite different. For breeding layers only small or medium-sized birds should be chosen; they should be narrow in front and wide and broad at the back; the legs rather on the tall size, the comb large and full, and they should be active, sharp, and bright.

A word of warning must be offered to those about to select their breeders. While the points here enumerated are all indications of the ideal layer, yet abnormal development of any of these features is to be deprecated. For instance, a large comb is usually found on the most prolific hens; yet to aim at a monstrosity in the form of a comb of such dimensions that it is out of all proportion to every other qualification it may possess would be foolish, since this excessive development has probably been secured at the expense of some other character, and in all likelihood an economic one. The same thing applies to the length of leg, to shape, and to size of body.

A pullet may be too small for the full development of the ovaries; the smallness may be due to want of constitution, and this is absolutely fatal in breeding stock, either male or female, whatever the object may be—that is, whether for production of layers or for table chickens.

When selection is being made for breeders of table chickens the opposite in most directions should be looked for. Size is of great importance, shortness of leg is indicative of length of keel, while lethargy indicates a temperament that will not chafe at the tedium of a fattening cage. When a general purpose type is in question—that is a breed that is moderately good in all economic qualities—a sort of compromise between the above-mentioned types should be chosen.

Having selected the most suitable-looking pullets, they should be removed from the main flock, and, as already stated, their energies reserved for the breeding-pen. When separation has taken place, all the selected breeders may be kept together until the time for mating arrives. They should then be put into their breeding-pens and run with their respective mates.

A WINTER LAYING HOUSE.

(See Page opposite.)

THE pen is built up in sections, comprising the front, which is in three parts (one part forming door), two ends, back, floor, and roof.

It will be seen that the whole of the front is hinged and bolted to top and floor with barrel bolts, and may be opened right out—a great convenience in many ways. Glass-panelled sliding shutters are fitted in grooves, and these are provided with cams on both sides to enable them to be kept at any height. A perch, with dropping-board under, runs the whole length of run, leaving the floor space free with the exception of nest-box space.

A broody pen is fitted at one corner and hinged to back and top, so that it may be easily put out of the way when not required.

FRONT.—Two frames 5ft. by 3ft., of 2in. by 1½in. wood, middle rail of 2in. by 1in. stuff, boarded 2ft. up with ¾in. matching. One frame 5ft. by 2ft., same stuff. Frames covered in front with 5ft. lengths of 1¼in. and 2in. by ¾in. stuff to form grooves for shutters. Wire secured at back. One frame 8ft. by 1ft., with middle style of 2in. by 1½in. stuff, bolted to top of end frames.

Shutters, fitted in grooves, of 2in. by ¾in. stuff, with panels of glass kept in position by beading ¾in. square.

Flap, 8ft. 6in. by 1ft. 6in., of matching on battens of 2in. by 1in. stuff, hinged to roof frame.

Door hinged to one piece, and both 3ft. pieces hinged to front of end framing.

ENDS.—These are of ¾in. matching, nailed to framing of 2in. by 1in. stuff, total width 4ft. 10½in., height at back 4ft. 6in., in front 6ft. Opening in one end for nest-boxes 4ft. long, 10in. deep., and 6in. up. Outlet for fowls 14in. by 10in., and boxed-in shutter as shown.

BACK.—7ft. 10½in. by 4ft. 6in., ¾in. matching nailed

on to two lengths of 2in. by 1in. stuff, bolted to ends as shown.

FLOOR.—7ft. 10½in. by 4ft. 9¾in., nailed on frame of 2in. by 1in. wood, with middle rail, ¾in. boarding projecting 1in. both ends, and at back over framing; floor screwed to lower framing of ends and back.

ROOF.—8ft. 6in. by 6ft., nailed to two rails of 2in. by 1in., and covered with felt; roof bolted on front and back.

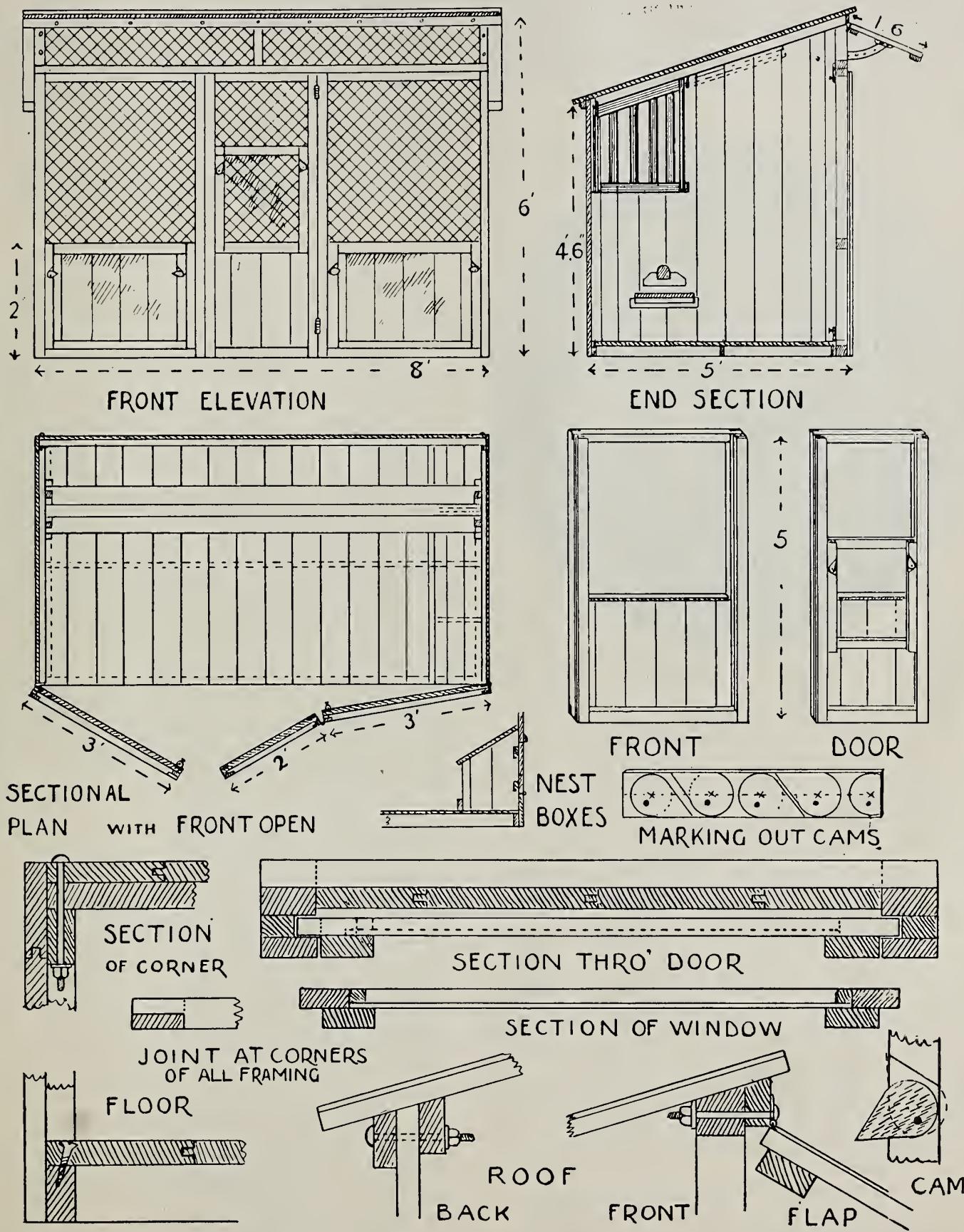
PERCH of 3in. by 3in. stuff, rounded at top, and fitted into sockets of 1½in. stuff; dropping-board under of 11in. by 1in. stuff, battened at each end, and resting on battens of 2in. by 1in. stuff.

NEST-BOXES fitted one end and nailed to lengths of 2in. by 1in., covered with sloping board to prevent fowls roosting on top.

BROODY PEN, 3ft. long, 2ft. deep, and 2ft. 6in. high in front, made of 2in. by 1in. lengths nailed together. Front, 3ft. by 2ft. 6in., hinged on to the roof; end, 2ft. wide and 2ft. 6in. high in front, hinged on to end of front; bottom, 3ft. by 2ft., hinged to back and attached to front and end with hook-and-eye catches. Bars in pen about 3in. apart.

How Old is a New-Laid Egg?

What is a new-laid egg? This was the question which the Dublin magistrate had to decide, and he said it had been proved that an egg ceased to be a new-laid egg after nine days. He had before him two men who had sold eggs which were proved to be from three to eight months' old as new-laid eggs. For having applied a false description to their goods he fined them £4 in each case.



DETAILED PLANS OF THE WINTER LAYING HOUSE.

SELECTIONS AND REVIEWS.

Comparative Profits.

EVIDENCE is constantly forthcoming that where farmers give sufficient attention to poultry they find these are among the most profitable of their stock. It all depends upon what and how the work is carried out. These facts are brought out by a writer in the *Aberdeen Daily Journal*, who says :

If poultry should be made a specialty on the farm, and the flocks be increased to a number that would permit the farmer to devote his attention thereto, the profit received in proportion to the labour bestowed would be larger than that derived from cattle. In fact, considering that fowls on most farms receive little or no attention it is sufficient evidence that with good management and the use of selected breeds the farmer would be more favourable to poultry if he would make the experiment.

So long have farmers overlooked poultry that it is surprising how many inquiries come from that class asking information on the methods of management; yet these farmers are familiar with the care and management required for horses, cattle, sheep, and pigs. It is, however, creditable to such farmers that they are disposed to learn more. They will make no mistake in placing the poultry department of the farm on a plane higher than that now occupied.

Which Birds to Fatten.

Method and subject must alike be favourable to accomplish the desired result. That is true in all poultry operations, and not least in connection with the fattening system. Birds must be of a suitable age, certainly not too young. "A Sussex Fattener," writing in the *Smallholder*, says :

The whole process of fattening takes about three weeks. From ten days to a fortnight the birds are fed from troughs, while the remaining week or ten days they are crammed.

It does not always, however, pay to cram fowls. It only does so when the birds are fairly well grown and the finest specimens are being turned out. In effect, fattening is only really profitable when one is going in for the business on a large scale.

Spring chickens which are to be killed when they are very young, when they weigh only about $2\frac{1}{2}$ lb. to 3 lb., cannot stand a very long process. With such birds we have always found that they kill in better condition at the end of a fortnight than at the end of three weeks. Very often they seem to go backwards when the period of confinement is too long.

The birds must be confined, for if they are running about at liberty they do not fatten nearly so well. Exercise means that some of the food is being expended in renewing waste tissue rather than going to the production of meat.

These birds can be accommodated in ordinary fattening cages. We prefer, however, to house them in small sheds, with well-littered floors, keeping some two dozen together.

Soft food is used entirely during this stage. The best mixture that can be employed is ground oats

mixed with soured skim milk, to which during the last three or four days fat is added in the proportion of $\frac{1}{4}$ oz. per bird per day.

A cheaper mixture is composed of half ground oats and half middlings, and a cheaper mixture still of one-third ground oats, one third middlings, and one-third maize meal. We don't recommend this last mixture, in spite of the fact that it is often used. Maize goes to the production of fat, not flesh, and this is the very point that has to be avoided.

Three meals a day in these circumstances are recommended, convenient hours being 7 a.m., midday, and 5 p.m.

The Value of Local Societies.

Organisation in the poultry industry is by no means restricted to the marketing. Over large areas of the country that presents no difficulties whatever. Outlets are at hand and prices are high. There increase of production is the important question. To that end local societies can render great service. It is satisfactory, therefore, to see the *Field* calling attention to this question :

In the matter of the formation of local societies or clubs the apathy of utilitarians is in striking contrast to the enthusiasm of fanciers, and is doubtless in some measure due to the lack of impetus and guidance from a central energising body. Here and there an individual has been found with sufficient force to form a local combination of kindred spirits, but innumerable inclinations have failed of achievement owing to the want of a plan and a pioneer. The exceptional successes are few and far between, but the hope is encouraged that an effort will be made to remedy the existing state of affairs, more especially as the prevailing conditions tend to emphasise the material advantages that should accrue from the formation of local centres. The chief of these is the saving that may be effected in the purchase of poultry foods. Not only is the price lessened by buying large, or comparatively large, quantities, but a better quality is generally obtainable by the purchase in bulk—important considerations at any time, but more than usually so at the present time. The small poultry-keeper nearly always pays excessively, because, as a rule, he buys in such very small quantities, and more often than not he is too easily persuaded to accept a mixture of unknown ingredients and doubtful quality. Moreover, a local society with a sufficiently circumscribed area of membership—and unless rigid limits are set the advantages are missed—is capable of becoming a very active centre for the benefit of its members and of utility poultry-keeping generally. The aim is to localise the objects of the bigger national movement, to interest and to benefit the individual; the success of the national movement is essentially dependent upon that of individuals, of which it is but the aggregation. Consequently a local centre must disseminate useful information, capable of direct practical application by the members. Frequent meetings for discussion, the maintenance of a selected library of standard books on the several branches of the subject, the organisation of periodical egg shows, and the arranging of chicken rearing com-

petitions are among the lines of activity followed by one or two of the societies already in existence. By these and similar means not only is money saved by the cheapening and increasing of production that results from the study and practice of economy, but those with similar aims and tastes meet on common ground, and their interest is sustained. The benefit is both personal and national. The only way to improve and increase the national output of eggs and table poultry is through the individual, and the best way to hold his interest is by means of localised effort—centrally inspired. There is no reason why practical effect should not be given to a comprehensive scheme of local combination and general cohesion for the common good and to the advantage of utility poultry-keepers of all classes.

The Farmer's Daughter.

That women will have to take a larger share in poultry is evident. Where possible, farmers' wives and daughters, more especially the last-named, could do much more than at present. An aspect of this question which is often forgotten is given in the *Feathered World*:

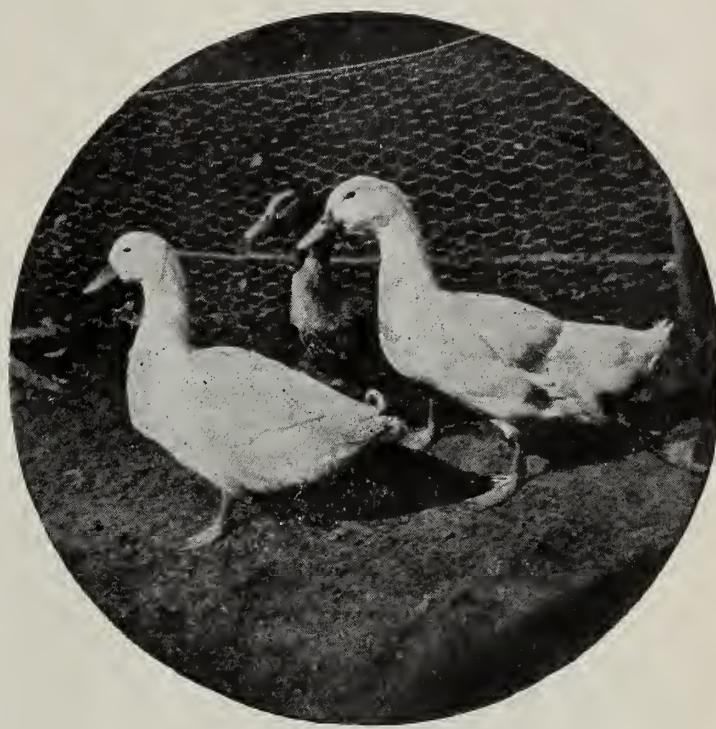
The recommendation is often made where daughters are growing up that one of these should take charge of and have a distinct share in the poultry. Where that can be carried out the benefit is very great. Usually their activity of mind and body, and the fact that they are not expected to undertake domestic duties, enables them to attend to a much larger number of fowls than would be otherwise the case, and to look after them where more widely distributed. There is, however, a side to this question which is often forgotten—namely, that such an arrangement is often temporary. I was recently upon a farm where the farmer and his wife are in full mid-age, and the latter has care of a large house. Their daughter, about twenty-three or twenty-four, has charge of the poultry, which has developed largely and profitably and on excellent lines. Many thousands of eggs and several hundreds of chickens, as well as a batch or two of turkeys, are sold annually. Seldom does one find a more satisfactory arrangement. As we were talking I could not help wondering how long it would continue. If the young farmers of that district are worth their salt, it will not be long ere she becomes mistress of her own home, provided she be willing, when her experience will be very valuable, in which case it is more than likely the present work will cease. I have known instances of farmers who did not feel justified in spending money beyond a given degree simply because of the uncertainty of a measure of permanency in the case of daughters, though sometimes a mere excuse. The same is found in many branches of women's work, which is more or less an incident, not a career.

The Art of Producing Winter Eggs.

Rule-of-thumb methods have prevailed too long. As stated in another item, the opportunity to farmers in poultry is very great. There must, however, be systematic and even scientific management, for the business requires regular attention. Upon this point the editor of *Country Life* says:

The British farmer, in his own fatalistic way, resigns himself to the belief that there's a period in winter when

he cannot expect any returns from his poultry. He lets them scratch about his stackyard, and occasionally wrings the neck of one for eating, but he has not descended so far to set about making the hens lay eggs in winter. The truth is that the return, as far as he knows it, has not been sufficient to dazzle his eyes. He is still under the belief of his forefathers that if the return from chickens, without going too closely into the amount of grain they have consumed, is sufficient to buy his wife a new gown at Easter, there is



CROSS-BRED DUCKS.

[Copyright.]

A cross between the Aylesbury and the Pekin produces excellent table and laying birds.

no reason to complain. The people who are revolutionising the little art of producing fresh eggs in winter are, as a matter of fact, newcomers in the field. They specialise in egg-production, and especially in getting winter eggs. In their hands it has not by any means proved difficult, and it has been a very remunerative business during the present year.

Nettles for Fowls.

"A. G.," writing in *Poultry*, says: "I thought that some of your readers might be interested to know the advantages of giving nettles to fowls and poultry of all kinds. I have tried it all this year with great success, more so in hot weather than in cold, because they cool the blood. The nettles (including stalks) should be cut into small pieces, about two inches long, and placed in boiling water and allowed to boil for about half an hour. They then can be mixed with the mash when hot or when allowed to get cool."

New Zealand Egg Exports.

The experiment in sending eggs from New Zealand and San Francisco has, according to reports recently received, proved a failure, financially, as the cases were not treated properly on the journey and the condition was bad on arrival.

THE UTILITY POULTRY CLUB. RECONSTRUCTION SCHEME.

IT is with pleasure we notice that a scheme has been formulated for reorganising the Utility Poultry Club upon a broader basis, with the view to a considerable extension of the important work already carried out by the club, and which has been of the greatest value to the poultry industry.

The proposals are embodied in a very exhaustive report by the Advisory Sub-Committee appointed for the purpose, and which report is now being issued to the members preparatory to its being submitted for consideration at a general meeting of the club.

The Advisory Sub-Committee have indeed done their work thoroughly, their report covering a very extensive field, and if, as we hope, their proposals are adopted, the new organisation should be of the greatest assistance to the poultry industry, and in addition stimulate the general body of members to actively interest themselves in the club's efforts to extend its operations and usefulness.

The proposed governing body is to consist of a council of twenty-one members from which committees will be formed, having powers of co-option, for the following purposes: Finance; Marketing of Produce; Literature and Publications; Competitions and Experimental Work; Organisation; Table Poultry and General Purposes. It is proposed that the council should meet monthly to consider the reports received from the several committees.

A considerable amount of important work is indicated for the several committees, much of which has a direct bearing upon those factors essential to attaining profitable results, and the omission of which has doubtless been the cause of many failures in poultry operations.

As a specialised industry or as a branch of general farming, the production of poultry produce yields profitable returns, and there is certainly an excellent prospect in the future. As with other industries, poultry farming requires for its success a sound knowledge of details, a well organised plant arranged upon efficient and economical labour-saving lines, together with good management.

The work of the Utility Poultry Club, which is well known and more especially in connection with the Egg Laying Competitions and consequent improvement in the laying strains of poultry throughout the country, has been carried out upon a very modest subscriptional basis, optional as to amount, but with the very low minimum of 2s. 6d., so fixed to bring membership within the reach of those poultry-keepers of limited means whom the committee still desire to benefit.

Though much has been accomplished, the extent of the club's work has been hampered by its limited income. Under the new scheme considerable additional expenditure will be necessary, and while it is not suggested that the minimum subscription should be raised, the success of the new organisation can only be assured by a generous response to the appeal now being made to members and others for increased financial support. We feel sure that this appeal will not be made in vain, and that the funds necessary to carry out the full programme will be forthcoming.

The desirability of a very considerable increase in our home production of poultry produce has for many years been apparent, and, though some advance has undoubtedly been made during recent years, largely due to improved methods, more than a year of war has brought home to everyone the necessity for making further and more strenuous efforts to increase home production.

The Utility Poultry Club which has done so much in the past, if placed on a broader basis, can be relied on to render that efficient assistance so necessary towards such increase of production and to assure for those engaged in the industry a more secure and profitable future. All who are interested in this important branch of agriculture are advised to apply for a copy of this report to the Hon. Secretary, H. E. Ivatts, 78, Clarendon-road, Putney, S.W.

SUGGESTIONS FOR INCREASING THE EGG SUPPLY.

THE attention of all poultry-keepers is directed to the importance of securing as large a production of eggs as possible during the coming autumn and winter, both in order to reduce the deficiency in our supplies caused by the very restricted quantity of imported eggs, and to secure and retain the best class of trade in home markets.

It is very important that every poultry-keeper should retain the best birds for laying and make careful selection of the birds which are to be carried over the winter.

Though the price of feeding stuffs has risen, there is no reason to assume that well selected hens and pullets will not yield an adequate return under careful management.

PRESERVATION OF PULLETS.—No pullets which are capable of producing eggs in the autumn or winter should be killed. To kill such pullets is to decrease the possible food supply, and is wasteful.

SELECTION OF BIRDS FOR LAYING: KILLING OLD HENS, &c.—In order to maintain only those birds which are likely to be profitable, "old" hens, hens which have completed their second season, and superfluous cocks and cockerels should be sold; birds which are suffering from disease should be destroyed; and an endeavour should be made to increase the stock of pullets and young hens reserved for laying.

MANAGEMENT OF MOULTING HENS.—Special attention should be given to the management of hens during the moult. The birds should be examined carefully; they will probably moult most successfully if in slightly lean condition at the outset; birds which are too fat may be put on half rations. When the new feathers form the birds should be fed rather more liberally. The supply of green food should be abundant, and, unless they have a wide range, animal food should be added to the ration.

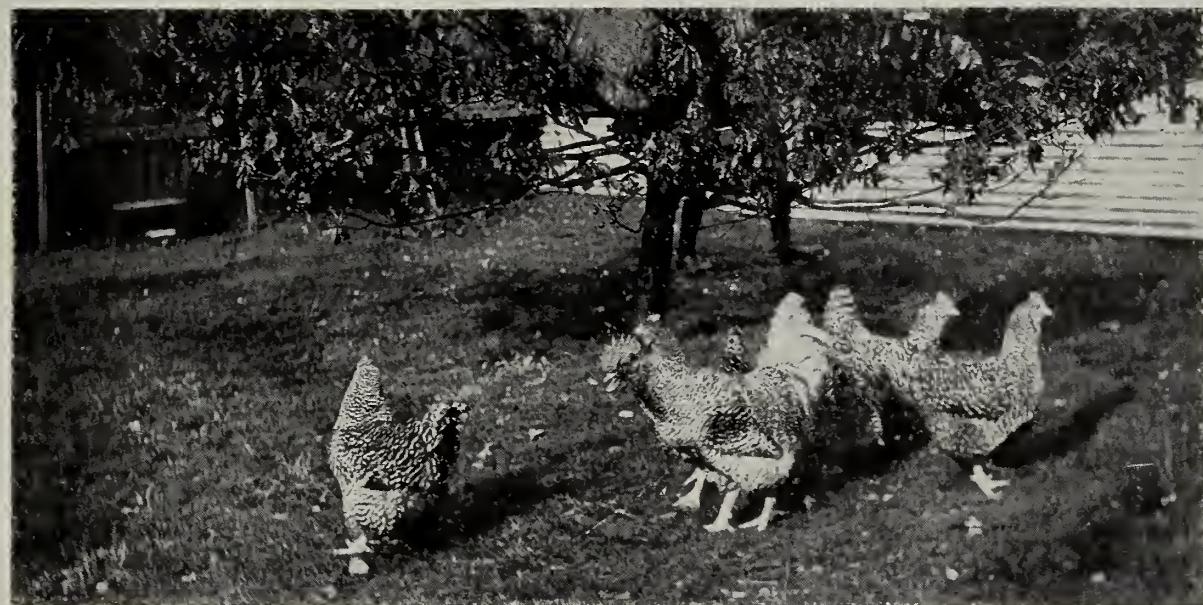
USE OF HOME-GROWN PRODUCE.—Produce grown on the holding should be used as much as possible for feeding the birds; the quantity of vegetables used in the mash may be increased; feeding should be regular, but without waste of food; the ground occupied by the birds should be changed periodically, wherever it is possible; houses should be weatherproof, well lighted, well ventilated, and regularly disinfected.—*Journal of the Board of Agriculture.*

CURRENT POULTRY LITERATURE.

(Mention is here made of special articles appearing in home and foreign publications dealing with poultry-keeping in its various branches.)

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 Combination in Poultry-Keeping, by Edward Brown, F.L.S., July, 1915.
 Egg Production at Morden Hall, 1914-15, July, 1915.
 Suggestions for Increasing the Egg Supply, August, 1915.
 AGRICULTURAL GAZETTE. London : Bream's Buildings, E.C.
 Fads and Experience, by G. A. Palmer, June 21, 1915.
 Early Moultling, by F. J. A., July 19, 1915.
 Houses for Laying Hens, by G. A. Palmer, August 2, 1915.
 Foods and Their Value, by E. T. B., August 9, 1915.

FARM AND HOME. London : 63, Lincoln's Inn Fields, W.C.
 Poultry-Keeping and Its Branches, by E. T. Brown, June 2, 1915.
 FARMER AND STOCK BREEDER. London : Essex Street, Strand, W.C.
 Enter-Hepatitis in Poultry, by G. A. Palmer, July 5, 1915.
 FARM, FIELD, AND FIRESIDE. London : 3, Wellington Street, W.C.
 A Poultry-Producing Campaign, July 23, 1915, *et seq.*
 FEATHERED WORLD. London : 9, Arundel Street, W.C.
 Individualism or Collectivism, by Edward Brown, F.L.S., June 18, 1915.



PLYMOUTH ROCKS,
A popular and useful variety.

[Copyright.]

BAZAAR, EXCHANGE, ARD MART. London : Bream's Buildings, Chancery Lane, E.C.
 Field Poultry Houses, by J. W., August 2, 1915, *illustrated.*
 The Transport of Live Fowls, by J. W., August 13, 1915, *illustrated.*
 COUNTRY LIFE. London : Southampton Street, Strand, W.C.
 The Flemish System of Poultry Rearing, by Belle Orpique, June 12, 1915, *et seq.*
 DAILY EXPRESS. London : St. Bride Street, E.C.
 The Golden Secret of Egg Production, by R. J. Terry, July 20, 1915.
 DAILY NEWS. London : Bouverie Street, E.C.
 Hobby That Conquered the World, by Edward Brown, F.L.S., July 7, 1915, *illustrated.*
 Egg Town : Burnley, by Edward Brown, F.L.S., August 10, 1915, *illustrated.*
 EGGS. Poole : R. Meech.
 The Micro-Fungi of Eggs, by Jas. Scott, June 2, 1915, *et seq.*, *illustrated.*
 Science Jottings, by Oscar Smart, June 2, 1915, *et seq.*

Inbreeding and Its Effect upon Vigour, by "Right-about," June 25, 1915.
 Breeding the Heavy Layer, by "Rightabout," August 6, 1915.
 Popularising the English Egg, by Wilkinson Bros., August 6, 1915.
 Fiction : Picturesque and Predatory, by Edward Brown, F.L.S., August 13, 1915.
 The Stages in Marketing Eggs, by Edward Brown, F.L.S., August 20, 1915, diagram.
 THE FIELD. London : Bream's Buildings, Chancery Lane, E.C.
 The Organisation of Producers, June 26, 1915.
 POULTRY. London : 10, Essex Street, Strand, W.C.
 Poultry Farming, by T. W. Toovey, June 4, 1915, *et seq.*
 Killing of Fowls by Dogs, by a Barrister-at-Law, June 18, 1915.
 The Apex Poultry House, by G. A. Palmer, June 18, 1915, *illustrated.*
 Field Flocks and Farmers, by A. T. Johnson, August 27, 1915.

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Enemies of the Poultry Yard, by John Wharton, July 9, 1915.

Caponising and How to Do It, July 23, 1915, *illustrated*.
Organising the Egg Industry, by Will Hooley, August 20, 1915, *illustrated*.

THE QUEEN. London : Bream's Buildings, E.C.
Poultry Farming for Women, July 10, 1915.

THE SMALLHOLDER. London : Henrietta Street, W.C.
Why Not Geese on That Waste Patch? June 5, 1915, *illustrated*.

The Poultry-Garden Holding, by E. T. Brown, June 26, 1915, *et seq.*

Poultry on Waste Land, July 3, 1915, *illustrated*.

The Poultry Smallholder, by E. T. Brown, July 10, 1915, *et seq.*

WEEKLY DISPATCH. London : Tallis Street, E.C.
Paying Poultry for the Table, by Captain Peirson Webber, June 6, 1915.

WESTMINSTER GAZETTE. London : Tudor Street, E.C.
Blind Soldiers and Poultry Farming, August 28, 1915.

AMERICAN POULTRY JOURNAL. Buffalo, N.Y., U.S.A.
Disease Prevention and Sanitation, by H. R. Lewis, June, 1915.

Low Cost Poultry Houses, by W. A. Wolford, August, 1915, *illustrated*.

COUNTRY GENTLEMAN. Philadelphia, Pa., U.S.A. : Curtis Publishing Co.
A One-Man Poultry Farm, July 3, 1915, *illustrated*.
Cottonseed Meal for Chicks, by J. K. Morrison, June 20, 1915.

Hoasing the Layers, by J. R. Kessler, August 28, 1915, *illustrated*.

RELIABLE POULTRY JOURNAL. Quincy, Ill., U.S.A.
Telling the Sex of Day-Old Chicks, June, 1915, *et seq.*
The Eurasian Fowl : A New Table Breed, by F. L. Sewell, July, 1915, *illustrated*.

Present Poultry Conditions and Prospects in Europe, by Edward Brown, F.L.S., August, 1915.

Surplus Cockerels and Capons, by G. Benoy and R. F. Clark, August, 1915, *illustrated*.

BOOKS RECEIVED.

MONTHLY BULLETIN OF AGRICULTURAL INTELLIGENCE. Rome : International Institute of Agriculture. Year VI., No. 3, March, 1915 ; No. 4, April, 1915 ; No. 5, May, 1915.

JOURNAL OF THE DEPARTMENT OF AGRICULTURE FOR IRELAND. Dublin : E. Ponsonby, Ltd. No. 4, July, 1915.

PARAFIELD EGG-LAYING COMPETITION. Final Report, by D. F. Laurie. Bulletin No. 93 of the Department of Agriculture for South Australia. Adelaide : R. E. E. Rogers, 23 pp.

RETURN OF PRICES OF IRISH AGRICULTURAL PRODUCE, 1914. Dublin : E. Ponsonby, Ltd., 82 pp., with diagrams.

As to eggs, the lowest average year under record was 6s. 1d. per 120 in 1897, rising steadily to 9s. 11d. in 1914—an advance of over sixty per cent.

MONTHLY BULLETIN OF ECONOMIC AND SOCIAL INTELLIGENCE. Rome : International Institute of Agriculture. Vol. LIII., No. 5, May, 1915 ; No. 6, June, 1915 ; No. 7, July, 1915.

EXPERIMENT STATION RECORD. Washington, U.S.A. : Department of Agriculture. Vol. XXXII., No. 7, May, 1915 ; No. 8, June, 1915 ; No. 9, Abstract Number. Vol. XXXIII., No. 1, July, 1915.

The Sociedade Brasileira de Avicultura (the Brazilian Poultry Association), whose headquarters are at Rio de Janeiro, has conferred on Mr. Edward Brown, F.L.S., the grade of Corresponding Member.

HARPER ADAMS AGRICULTURAL COLLEGE, NEWPORT, SALOP.

TEN MONTHS' LAYING COMPETITION 1914-15.

THIS competition, which has been held in conjunction with the Utility Poultry Club, finished on August 30, having continued for ten calendar months, or a total of 304 days.

During this period a total of 50,562 eggs was laid at a value of £259 11s. 1½d. These figures compare very favourably with previous competitions held at the College, which were run for a full twelve calendar months, and for the purpose of comparison are set out below :

| | Average per bird. Eggs. | Value. s. d. |
|-----------------------------------------|----------------------------|-----------------|
| 1912-13 (12 calendar months) | 151.90 | 14 5 |
| 1913-14 (12 calendar months) | 187.28 | 19 0½ |
| 1914-15 (10 calendar months only) | 168.54 | 17 3½ |

The competition just ended was arranged in sections, with a view to encouraging egg-production amongst the less popular breeds, and the following figures show the average per bird in the four sections and over the whole birds :

| | Average per bird. Eggs. | Value. s. d. |
|-------------------------------------------------------------------|----------------------------|-----------------|
| Section I. (Leghorns) | 176.0 | 17 7 |
| " II. (Wyandottes) | 167.0 | 17 5 |
| " III. (B. Orpingtons, Barred Rocks, and Rhode Island Reds) .. | 165.0 | 17 2 |
| " IV. (Sussex and Faverolles) .. | 155.0 | 16 0 |
| All the birds | 168.0 | 17 4 |

SECTION I.—This section holds leading position, and the laying by these birds has been excellent. Pen No. 13 in this section has the largest number of eggs to its credit—viz., 1,302, valued at £6 18s. 3½d., each bird continuing to lay well right up to the finish of the competition. This pen also includes the best layer in the whole competition, pullet No. 77 reaching the excellent total of 253 eggs.

It is interesting to compare the best individual records of the 1912-13 and 1913-14 competitions with the above performance :

| Year. | Breed. | Eggs. |
|--------------------------------|----------------------|-------|
| 1912-13 | White Wyandotte..... | 275 |
| 1913-14 | White Leghorn | 288 |
| 1914-15 (10 months only) | White Leghorn | 253 |

Twelve pens in this section laid over 1,000 eggs, and no less than twenty-four birds laid over 200 eggs in the 304 days.

SECTION II.—It was anticipated that Section II. would give a good account of itself. It has the distinction of including the winning pen (No. 19), which laid a total of 1,272, valued at exactly £7. It will be remembered that this pen created a world's record in the four winter months, and has held first place right away through the whole of the competition.

Seven pens in this section passed the 1,000 score mark, while eighteen birds have each a score of over 200 to their credit.

SECTION III.—This section (including Buff Orpingtons, Barred Rocks, and Rhode Island Reds) has also given a good account of itself. The best pen in the section is a pen of Barred Rocks, which has laid a total of 1,157 eggs, valued at £6 1s. 6½d. Second place is held by a pen of Buff Orpingtons (No. 37), which has a total of 1,124 eggs, valued at £6 0s. 0½d. Pen 44 (Rhode Island Reds) has

dropped from first place to third place, its score for the past month only being 37 eggs, while during the same time the Barred Rocks and Buff Orpingtons have laid 86 and 64 eggs respectively.

Four pens in this section have each over 1,000 eggs to their credit, while eleven of these birds have each laid over 200 eggs during the competition.

SECTION IV.—Sussex and Faverolles are represented in this section, and out of a total of six pens two succeeded in laying over 1,000 eggs. Four birds each laid over 200 eggs, the highest score being 221 by a light Sussex pullet in Pen 45.

The average over the whole birds—viz., 168.54 eggs—is excellent, and much credit is due to the poultryman, Mr. T. Hedges, on the success attained.

During the year thirteen birds died (being about 4 per cent.), as compared with thirty in 1912-13 and twenty-five in 1913-14.

Report, giving full details as to feeding, management, &c., will be prepared shortly, and will contain the full list of awards, &c., made under the rules of the competition.

**MISS M. FOWLER,
PARK POULTRY FARM, FENISCOLWES,
Nr. BLACKBURN.**

WHITE LEGHORN COCKERELS for SALE, bred from Gold Medal Winners; also BUFF ORPINGTONS from my 1st Prize and Challenge Cup Winners; also WHITE WYAN-DOTTES from my Bronze Medal Winners in the U.P.C. and the N.U.P.S. Laying Competitions. Prices on Application.

Messrs. R. Toope and Co.'s Specialities.

Messrs. R. Toope and Co., of Stepney Square, High Street, Stepney, have issued an attractive catalogue giving full particulars of the goods for which this firm is so well known. Among these may be mentioned:—Brooder houses, collapsible coops, brooder heaters, grain sprouters, kibbling mills, green bone and vegetable cutters, grinding mills, food choppers, spraying pumps, thermometers, poultry fountains, automatic feeding hoppers, trap-nests, caponising instruments, creosote, leg-bands, asbestos poultry houses, and other fowlhouses of several designs, incubator and brooder fittings, wire netting, and oil cabinets.

A full description is given of their special Ostrich-egg incubator, the Mammoth Asbestic Hen machine, which may be heated by gas, oil, coke, coal, or petrol, and the "Baby-mammoth," an intensive-culture incubator.

Mr. A. A. Colville, the celebrated poultry breeder and expert, of South Africa, the best known authority on poultry matters in Australasia, who has had incubators of all makes, British, American, &c., under his supervision, recently tried Messrs. R. Toope and Co.'s Patent Asbestic Hen Incubator, and said that he obtained better results from it than he had ever obtained from any other make of incubator, and, further, at a recent large Agricultural Show in East London, S.A., he publicly stated that in his opinion there was no incubator on earth to beat the Asbestic Hen as a successful hatcher.

R. TOOPE & CO.,

Incubator & Poultry Appliance Manufacturers,
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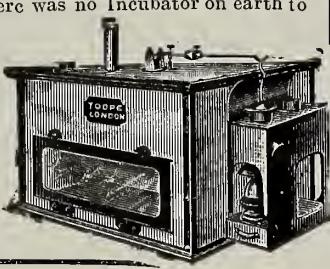
THE PATENT ASBESTIC HEN INCUBATOR.

Mr. A. COLVILLE, the poultry expert of South Africa, who has used every Incubator yet made—English, American, &c.—told our S.A. Agents that the Asbestic Hen gave him the best results of any Incubator he had tried, and later, at a recent Agricultural Show, he publicly stated that it was his opinion that there was no Incubator on earth to beat the Asbestic Hen.

The reason why the Asbestic Hen is the best machine on earth is because it is fireproof, will not crack or warp, gives heated moist-air so necessary to insure strong, healthy chicks. Is perfectly automatic in action, and maintains a steady temperature in a marvelous manner.

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We make Mammoth Incubators, from 500 to 20,000 Egg capacity, Brooders, Poultry Houses, and all Poultryman's Sundries.



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Russian Orloffs : Sicilian Buttercups
Rhode Island Reds : Speckled Sussex
White Japanese and Polish Bantams

**Mrs. CHRISTINE COLBECK,
Boyle Hale, West Ardsley,
Nr. WAKEFIELD.**

→ TO ENSURE ABUNDANCE OF EGGS ←
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FEED WITH

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FOR FULL PARTICULARS APPLY

WHITE, TOMKINS, & COURAGE, Ltd., 48, Mark Lane, LONDON, E.C.

Cooked Food, A.I., 16/- per 112 lbs

" Utility, 13/6 "

Malted Poultry Meal, 13/6 "

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Chick's Delight Fine, 16/- "

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Carriage Paid. Cash with Order.

1/- extra Scotland and Ireland.

UNITY OF POULTRY-KEEPERS IN NATIONAL SERVICE.

IMPRESSED by the importance of endeavouring to secure unity of effort on the part of poultry-keepers, in order to increase home production of eggs and poultry, Mr. Edward Brown, F.L.S., invited representatives of the Central Poultry Clubs and the Poultry Press to meet Mr. P. Dallinger, of the Board of Agriculture and Fisheries, and himself, on Tuesday, September 7. There were present, in addition to the gentlemen named, Messrs. F. J. Broomhead (*Poultry*), J. Godwin Edwards (Table Poultry Club), J. W. Hurst (*Poultry World*), H. E. Ivatts (Utility Poultry Club), and W. Rice (Poultry Club). Owing to absence from town, the Editor of the *POULTRY RECORD* was unable to be present.

In opening the proceedings, Mr. Brown explained that for a considerable time he had thought efforts should be made to bring the various branches of the poultry industry together with a view of unity of action so far as that is possible. The present conditions, the essential necessity for increase of home food supplies, in which direction steps are being taken by the Board of Agriculture and county authorities, as well as others, made some such action a truly national service. In sending out an invitation he had no personal interest to serve. Someone must take the first step, and his long association with the poultry industry was his justification.

As a basis for consideration, the following suggestions were submitted :

1. In view of the efforts now being put forward by the Board of Agriculture, County Councils, and others, for increase of home production, in order to meet the shortage of supplies, and to retain money hitherto sent abroad for eggs and poultry, it is suggested that an attempt be made to ensure the hearty co-operation of all associated in the poultry industry with public authorities.

2. To that end united and definite effort and action is important, so that the end in view may be accomplished, and support given to those who are seeking to extend production, and for the adoption of methods in conformity with present and future requirements. There is a large volume of poultry experience throughout the country which would be very valuable, but which is generally unknown to officials. Moreover, the present is the most favourable opportunity for bringing together the various sections of poultry-keepers, and of securing voluntary missionary work.

3. Distributed over the country is a large number of poultry clubs and societies, also smallholders' associations interested in poultry. Many of the former are partially or wholly suspended owing to the war, and could be utilised, forming a large and important nucleus for extension on the broadest lines, were these brought into touch with the various teaching and other authorities, as for the assistance of village war food societies.

4. A most important development would be exerting an influence upon school children, with a view to the future. Where poultry yards have not been or cannot be set up speedily in connection with elementary schools, many poultry-keepers would doubtless be

willing from time to time to allow parties of children to visit their plants, and in some cases these could be used as demonstration centres, as also in connection with local classes for poultry arranged by county education committees.

5. To accomplish the above objects it is suggested that the central poultry clubs could influence their members and affiliated societies, and the Poultry Press, by publicity and persistent advocacy of any plan agreed upon, bring all engaged in the work into one focus, thus avoiding waste of effort.

6. In order to learn what help can be secured, a schedule might be issued to be forwarded when filled up to the respective county authorities. The Board of Agriculture might be asked to prepare these for supply to clubs, and the Poultry Press be asked to give as a supplement to these journals, and also offer copies of its leaflets for distribution.

7. The holding of sectional conferences in each area would be of great value at the present time, say, twelve or fifteen in England and Wales.

Mr. Dallinger stated that one object of the Board of Agriculture is to increase the numbers of poultry kept on farms and smaller occupations, in which direction he gave an outline of the steps being taken, as also of the many difficulties which are met with. In reply to a question as to town plots, it came out that, whilst in fullest sympathy, such do not appear to be within the scope of the Board so far as obtaining land is concerned.

Many points were raised and discussed, notably provision of capital for equipment, the fox problem, organisation of suitable instruction, &c.

It was decided to invite the Central Poultry Clubs to address a letter to their affiliated societies and members, inviting them to get at once into direct communication with the respective county agricultural authorities with a view to offering individual and combined assistance in all questions and efforts appertaining to development and improvement of the poultry industry within their areas, so as to increase the national food supply. Mr. Dallinger stated that he felt sure the Board of Agriculture would, if asked, supply any of its leaflets for issue with such communications.

ECONOMY IN FEEDING.

WE have received four leaflets respecting the "Clarendo" Foods that are advertised in our columns.

(A) Calls special attention to "Clarendo" Cooked Food, which is so highly spoken of for general purposes.

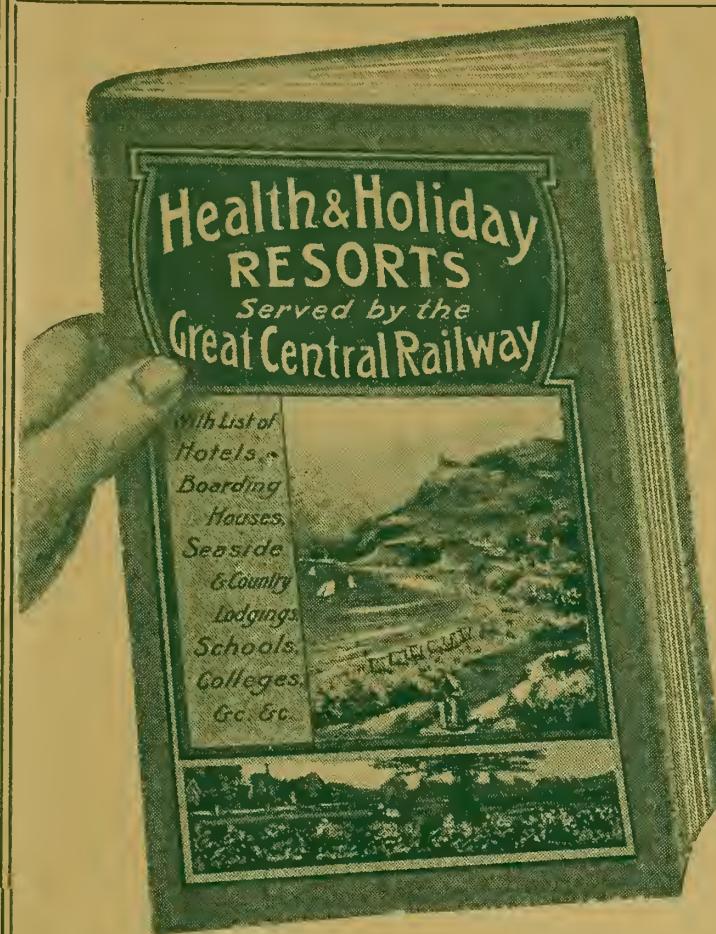
(B) Has reference to the Poultry Meal, which combines all the necessary elements for egg production and chicken rearing.

(C) Gives particulars of a Malted Chicken Meal, which has proved to be such an excellent meal for rearing chickens and finishing off for the table.

(D) Shows the prices of the foods in tabulated form.

These foods are well known throughout the country and very highly spoken of as enabling poultry-keepers to produce eggs and table poultry at a minimum of cost.

Copies of these leaflets with particulars of the foods will be sent on application to the proprietors, White, Tomkins, and Courage, Limited, 48, Mark Lane, E.C.



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Krekodyne cures poultry of colds, roup, diarrhoea, etc.; boxes 1/-; 3, 2/6. Ovary or chicken tonics, sufficient for 20 gallons of water, 1/6; samples, 7d.—Address, W. Vale, F.Z.S., Q.M.C., Bird Hospital, South Norwood, London. Post-mortem examinations and advice by following post, 1/1. Over 50 years' experience.

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WINTER EGGS.**

In every menu Clover Hay Meal must find a place if full egg-baskets are to be the order of the roosts. Clover is the natural food of the hen in her wild state, and it may be had in two forms—viz., green and dry. Of the two dried clover, or, as it is usually called, Clover Hay Meal, is the more valuable, because when the water has been eliminated from the green clover (in the process of preparing the dried or Clover Hay Meal) the percentage of salts jumps from 2 per cent. to 9 per cent.

Klovera is the finest brand of Clover Hay Meal, and is made by Messrs. Rosslyn and Co., of 111, Ribblesdale Road, Streatham, London, S.W. The firm has received many striking testimonials from poultry-keepers who have used it, all of whom speak highly in its favour.

At the present moment, when the price of feeding stuffs is so high, economy is essential. Klovera is a cheap food, and at the same time is high in its feeding value. We strongly recommend our readers to try it.

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